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ABSTRACT

The report describes the STETS (Structured Training Employment Transitional Services) project, a program designed to prepare mentally retarded young adults for competitive employment. The report summarizes major lessons and policy implications of the STETS demonstration. An initial section describes the evolution of public policy in transition programs and presents information on typical participants. Lessons from program implementation are noted, including the superiority of worksite observation over the use of standardized tests and the use of sheltered workshops as one option for the early phase of training. The following in-program performance measures are reviewed: placement in competitive jobs, length of stay, and operating costs. Findings from the impact and benefit cost research are noted. A final section examines factors involved in expanding the role of transitional employment programs. (CL)

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Lessons on Transitional Employment
The STETS Demonstration for Mentally Retarded Workers

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Manpower Demonstration Research Corporation

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LESSONS ON TRANSITIONAL EMPLOYMENT: THE STETS DEMONSTRATION

In an economy where the employment prospects of many disadvantaged people remain limited, mentally retarded citizens often face particular problems finding steady jobs in the regular labor market. These difficulties can be aggravated by lingering stereotypes about their capacity for productive work. In response, various program initiatives have sought to increase the employment opportunities for mentally retarded individuals as one important means of assisting them to enter the mainstream of society.

The results of a recent major experiment — the Structured Training and Employment Transitional Services (STETS) demonstration — provide convincing evidence of a promising approach. The STETS experience helps to dispel some misconceptions about mentally retarded workers, while also confirming that this group can still be expected to encounter considerable difficulty when seeking regular employment.

Program Overview

STETS tested the ability of diverse organizations to operate a "transitional employment" program for 18- to 24-year-old mentally retarded young adults. The goal of the program was to prepare participants for competitive employment — that is, an unsubsidized job in the regular, primarily private sector work force. The transition to competitive employment was to take place gradually, usually within no more than a year.

Participants were initially assigned to closely supervised, low-stress jobs in sheltered workshops and nonprofit or public agencies. Once they had learned basic work habits, the participants entered more demanding on-the-job training positions, generally in local businesses. The performance standards expected of STETS workers were steadily increased (and the level of program support gradually withdrawn) until productivity reached competitive levels. At that point, the participants would be ready to become regular members of an employer's work force.

Five local STETS projects (sometimes called sites) were operated from the fall of 1981 through December of 1983 by two nonprofit training organizations, one in New York and the other in Los Angeles; a state developmental disabilities agency in Tucson; a sheltered workshop in Cincinnati; and an "affirmative industry" (which in many ways resembles a sheltered workshop) in St. Paul, Minnesota. Only the New York site had prior experience in running a transitional employment program for this population. The Manpower Demonstration Research Corporation (MDRC) coordinated the implementation of the program in the five localities and held responsibility for the evaluation, part of which was subcontracted to Mathematica Policy Research, Inc.

The demonstration built on the encouraging results of pioneering transitional employment programs initiated in the 1970s. In STETS, MDRC examined in a rigorous manner the feasibility, costs and impacts of a program operated on a somewhat larger scale (40 to 50 participants per site) than most previous projects. It did so within the framework of an unusually comprehensive research design, in which over 450 STETS applicants were randomly assigned to participant and control groups. The two groups were followed over a 22-month period to obtain reliable data on the program's effects on participants and the benefits and costs of the STETS approach.

This monograph draws on the detailed discussions in three published reports[1] to summarize the major lessons and policy implications of the STETS demonstration. An introductory section describes the evolution of public policy in this area and the growing interest in transitional employment programs as one possible strategy for training mentally retarded workers. Subsequent sections point to significant operational achievements by the local STETS projects, as well as participant gains in competitive employment and earnings that are large compared to those found in most programs for other disadvantaged groups.

Key findings on program implementation include:

- STETS participants had characteristics that posed considerable challenges to program staff seeking to prepare them for competitive employment. This was true even though most participants had relatively mild levels of retardation.
- The program proved feasible to implement under a variety of organizational auspices — including sheltered workshops and a state agency.
- Many participants demonstrated their capacity to be productive workers, and 42 percent were placed in competitive jobs on completion of the program.
- The main operational difficulty was the development of sufficient jobs in a timely manner. The deep recession that prevailed during the demonstration period was one contributing factor, but others were also important.
- Additional concerns included the relatively short duration of the demonstration and the instability caused by funding uncertainties.
- The public cost of operating the STETS program was about $8,700 per slot year (i.e., the cost of serving one person for one full year) and about $7,550 per participant (since participants stayed in the program for less than a year). Costs varied somewhat among the five sites.

Key findings depicting the program's impact on both participants and society as a whole include:

- About one year after leaving the program, STETS participants were substantially more likely than their control group counterparts to be working

in competitive jobs (31 percent vs. 19 percent) and correspondingly less likely to be in sheltered workshops (7 percent vs. 18 percent).

- Particularly impressive increases in competitive employment and earnings were found for several key categories of participants, often those who had the most difficulty finding jobs on their own. For example, the competitive employment rate more than tripled — from 11 percent for controls to 39 percent for participants — within the moderately retarded group (those with the lowest IQ scores in the STETS sample).
- The participants' increased employment and earnings led to only modest reductions in the overall amount of public assistance they received compared to the control group. However, reasonably large (although not statistically significant) reductions did occur in participants' monthly income from Supplemental Security Income and/or Social Security Disability Insurance.
- Because of the benefits generated by the STETS program, it was judged an effective investment of public resources. The economic benefits to society seem likely to exceed program costs within about three years from participants' enrollment. Substantial intangible benefits are also expected to result from a program that helps mentally retarded individuals to lead more productive lives.
- The impacts of STETS would probably have been even larger in an ongoing program operating under more stable conditions. Thus, the increases in competitive employment and earnings were highest for those receiving services during the five-month "steady-state" period when program operations were most stable. In contrast, there were essentially no impacts for those participating during the periods when the program was starting up or phasing down.

The final section of the monograph presents some lessons from STETS that policymakers and program operators may want to take into account when considering the role of transitional employment programs within the service delivery system for mentally retarded adults. For example, the potential for expanding these programs will be closely tied to the improved capacity of operators to develop a sufficient number of private sector jobs. Transitional employment programs will also require secure funding and the appropriate financial incentives to interest a larger number of organizations in running these types of efforts.

Perhaps the most significant consideration is the need to ensure a proper balance within the overall service system. While transitional employment programs can help to place many mentally retarded persons in competitive jobs, it is important to recognize that these programs will not succeed with all of their participants. Suitable alternatives should remain available for those who do not become competitively employed.

TRANSITIONAL EMPLOYMENT PROGRAMS AND THE STETS MODEL

The Public Policy Context

The American Association on Mental Deficiency has defined mental retardation as "significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period." Four ranges of mental retardation are widely recognized — profound (the most disabled group), severe, moderate and mild. A fifth category — the "borderline" group — is no longer officially considered mentally retarded, but the classification is frequently used to identify individuals in need of vocational or other assistance.

It has been estimated that between 1 and 3 percent of the United States population is mentally retarded. From 500,000 to 850,000 are age 17 to 24, roughly the age group served by STETS. Not too long ago, many of these individuals were perceived as lacking any real potential for productive lives. Reflecting this general view, public policy adopted a caretaking approach that led to the institutionalization of the more severely retarded persons while providing less severely retarded individuals with just enough training and work to keep them minimally functional and occupied.

Recently, a different philosophy has become more widespread, one recognizing the far greater capabilities of mentally retarded individuals. In public policy terms, this is known as "mainstreaming," or encouraging the placement of individuals into the most normal circumstances possible that are still consistent with their needs. The opportunity to engage in productive work is an important element in the "mainstreaming" philosophy.

One prominent issue is the extent to which greater numbers of mentally retarded individuals can be prepared for competitive employment. The principal providers of vocational services — sheltered workshops, vocational rehabilitation agencies and the schools — have been challenged by some as failing to focus sufficiently on this alternative. As a result, many believe that a needlessly large pool of individuals has been relegated to costly and long-term service programs.

Some recent initiatives have been encouraging, such as an on-the-job training program sponsored by the Association for Retarded Citizens of the United States, a number of small university-based efforts, and transitional employment programs that are now operating in various locations. While these strategies have shown considerable promise, they were not usually structured to produce reliable evidence on a number of important issues, such as program cost-effectiveness and impact on participants. Prior studies have generally had only small samples and lacked adequate follow-up and control groups against which to compare participants' performance. As a consequence, many important questions have remained unanswered, including how the placement and continued employment of participants compare to what would have occurred in the absence of the program.

The STETS demonstration addressed these deficiencies, using an experimental design in which random assignment determined the participant and control groups. With relatively large sample sizes and comprehensive data collection, STETS provided an opportunity to expand the knowledge base needed for developing sound public policy.

The Program Model

In designing the STETS model, MDRC drew on lessons from previous transitional employment programs and adopted the basic principles of Supported Work:* subsidized work for a limited period using gradually increased performance expectations, firm but supportive supervision, and peer support. The Supported Work concept had previously been tested by MDRC in a five-year national demonstration focused on four hard-to-employ groups: long-term female welfare recipients, ex-addicts, ex-offenders and high school dropouts. The program was particularly effective for welfare recipients, and there was interest in adapting the model for other populations.

A Supported Work variation for mentally retarded participants was first tried during the late 1970s in two programs: Job Path, sponsored by the Vera Institute of Justice in New York City, and Transitional Employment Enterprises in Boston. Based on the encouraging experiences of these pilot efforts, MDRC designed a three-phase model that sought to prepare a relatively broad range of mentally retarded young adults for competitive employment in a 12-month schedule of activities.

Target Population — Participants were required to satisfy the following eligibility criteria:

- **Age:** Between 18 and 24 years (inclusive) at the time of enrollment. This age group was selected to address an important policy issue: As individuals "age out" of special education and other school-based programs, can the transition from school to work be facilitated by programmatic initiatives such as STETS?
- **Disability:** Mental retardation in the moderate, mild or lower "borderline" ranges, as determined by a full-scale IQ score of from 40 to 80 and/or other verifiable determinants of mental retardation.[2] MDRC also encouraged the local programs to accept applicants with secondary disabilities. However, if the problems were so severe as to make competitive employment impractical within the STETS timeframe, these individuals were not referred to the program.
- **Employment History:** No full-time unsubsidized employment of more than six consecutive months in the previous two years. Also, at the time of enrollment, STETS participants could not be employed in unsubsidized jobs for more than 10 hours per week.

* Supported Work, a transitional employment program, is often confused with "supported employment," a term frequently used to refer to permanent or long-term subsidized employment for more severely disabled individuals who are not expected to hold competitive jobs.

Phase 1: Assessment and Work-Readiness Training

This phase of the program, combining structured work activities with training and support services in a low-stress environment, began to develop the basic work habits, skills and attitudes participants would need for placement into more demanding positions. Program operators placed emphasis on assessing the abilities and interests of workers through counseling, tests and work performance evaluations. Participants engaged in at least 20 hours of productive work per week under close supervision in either a sheltered setting or a nonprofit or public agency. Time was also spent in travel training (if needed), world of work orientation and individual counseling.

Phase 2: On-the-Job Training

This phase — carried out exclusively in unsheltered settings — commenced when participants had developed the basic work habits needed for the transition to competitive employment. Workers were scheduled to spend at least 30 hours per week with local employers, who in most cases agreed to hire them once they had attained required productivity levels. Wages in Phase 2 could be partially subsidized by the program, but the employer was also generally expected to pay a portion; in fact, the employer often covered the entire wage. Counseling and other support services continued.

Participation in Phases 1 and 2 combined was not expected to exceed 12 months of activity over a 15-month calendar period. This limit was set to ensure a relatively quick transition to competitive employment.

Phase 3: Post-Placement Support Services

Participants became regular, unsubsidized members of an employer's work force when: (1) the employer did not receive any financial subsidy from the program; (2) counseling and other direct program services could be curtailed; and (3) the employer and the program agreed that the participant had satisfactorily concluded the training period and was ready to perform the work of a regular employee.

The primary program function in Phase 3 was to assist participants in cementing the working and personal relationships needed for their competitive job experience to be successful. Consequently, the STETS staff provided up to six months of post-placement support services, tracking the employees' progress, offering occasional "crisis intervention" and developing any necessary linkages with local service agencies.

The STETS Program Operators

Local operators were selected on the basis of several criteria deemed essential for a reliable test of the STETS model. The two most important were experience in running employment programs for disabled workers and a commitment to the goal of preparing participants for early placement into competitive jobs. MDRC also wanted to test STETS in a variety of settings, and selected sites that offered diversity in geographic location and method of operation. Organizations were considered from the major categories of agencies providing vocational services to mentally retarded young adults: sheltered workshops or

other programs with in-house production facilities; vocational rehabilitation, educational or other governmental agencies; and nonprofit training organizations.

The five sites listed in Table 1 were selected partly because they brought this diversity to the demonstration. They also had credible plans for recruiting and serving the required number of participants and were able to obtain local match funding to cover more than half of the operating costs. This last factor was considered strong evidence of the organizations' and the communities' commitment to the STETS program.

TABLE 1

Programs Participating in the STETS Demonstration

City	Sponsoring Organization	Type of Organization
New York	Vera Institute of Justice (Job Path)	Private Nonprofit Corporation
Cincinnati	STAR Center	Sheltered Workshop
St. Paul	Minnesota Diversified Industries	Nonprofit "Affirmative Industry"
Tucson	Arizona Department of Economic Security, Division of Developmental Disabilities	State Agency
Los Angeles	California Institute on Human Services; ADEPT	Private Nonprofit Organizations

The Research Design

To provide a rigorous test of the feasibility, impact and cost-effectiveness of the STETS model, MDRC designed a comprehensive three-part research plan. MDRC staff conducted the implementation analysis and subcontracted the impact and benefit-cost analyses to Mathematica Policy Research, Inc.

- The implementation analysis addressed the operational issues of the demonstration.

Particular attention in this analysis was paid to factors that facilitated or constrained implementation at the local level (including the type of organization operating the program); the process of recruiting, training and developing jobs for participants; and the costs of the program. Data were collected through careful on-site observation, comprehensive management information and cost reporting systems, a special study on job development, and a survey of Phase 2 employers.

- The impact analysis measured the program's effects on participants' employment, earnings, use of public assistance and other outcomes.

This analysis measured the program's impacts on participants by tracking a sample of 467 applicants who, after agreeing to join the research, were randomly assigned either to STETS or to a control group which could receive services other than STETS. The successful implementation of random assignment was a critical part of the research design, ensuring that, at the outset, both groups would be virtually identical in background demographic characteristics and in such intangible factors as motivation. As a result, any subsequent differences in the experiences of participants and controls, found in interviews conducted over a 22-month follow-up period, could be attributed to the effects of the program rather than to pre-existing distinctions between the two groups.

Initially, there was considerable question about the feasibility of obtaining complete and accurate data through personal interviews with mentally retarded individuals. Some information, particularly dollar amounts, did need to be obtained from parents or other proxies for less than 20 percent of the sample. The respondents' limited ability to recall information also required that the interviews cover only current activities (employment, schooling, etc.) rather than activities over the full period since the last interview. Nevertheless, the interviewing went very smoothly and produced quality data. Completion rates were high, so that of the 467 who were randomly assigned, 86 percent or 403 individuals completed all of the interviews.[3]

- The benefit-cost analysis compared the economic benefits generated by STETS with the costs of program operations.

This analysis built on the findings from the implementation and impact research. A comprehensive accounting framework was used to assign dollar values to all measurable impacts (e.g., the increased earnings and reduced dependence on publicly-funded programs) as well as the costs associated with STETS. This yielded an estimate of the program's net present value: i.e., the difference between benefits and costs, with all dollar values adjusted to a specific base period.

THE PARTICIPANTS

To understand STETS, one must first learn about its participants. Brief introductions of three of these people (whose names have been changed) portray some of their reasons for joining the program.

Betty, who was 20 years old when she entered STETS, lived with her family. Her IQ was in the low 60s and, although she had attended a special education program, she left before graduation. Betty then worked in a subsidized job, but funding ran out, and she remained unemployed for several months. Subsequently, she was referred to a 12-week training program, but became ill and stayed out of work for most of that period. Another bout of unemployment followed before she was referred to STETS by her counselor in the Office of Vocational Rehabilitation.

Ed, aged 22, was receiving Social Security Disability Insurance when he entered STETS. His IQ was in the high 60s, and he lived in a group home with 20 other people. He could recognize words but could not read sentences. After leaving a high school special education program, Ed had worked in two sheltered workshops; the second one had laid him off because of a lack of sufficient work. At that point, Ed was referred to STETS by a vocational rehabilitation counselor.

Karen, 18 at the time she enrolled in STETS, had an IQ in the high 40s and lived with her family. She had graduated from a high school special education course, and had also taken part in a work-study program that gave her part-time work in the school lunchroom. After graduation, Karen was in a five-week on-the-job training program at a hospital. When that ended, she was unemployed for four months before being referred to STETS.

Characteristics of Enrollees

While no person is a typical STETS participant, many of the characteristics of these three people are common to others enrolled in the program. (See Table 2.) Participants were young, and usually lived with their families. They had an average full-scale IQ score of 64 (compared to an average of 100 for the population as a whole). Participants came from a mixed ethnic background: the majority (56 percent) were white; 30 percent were black, and 12 percent Hispanic. Over two-fifths had secondary disabilities, and only 11 percent had spent any time in a regular school course since the age of 14.

Participants had taken part in various employment and training activities, but only a few had held full-time unsubsidized jobs. At the time of enrollment, almost two-thirds were receiving some form of public assistance or social insurance, primarily Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and Medicaid or Medicare.[4]

The majority of the STETS participants at program entry were deficient in one or more of the work habits and skills necessary for keeping a job. The most common problems were poor attendance and punctuality (in many cases, because participants misjudged time or did not understand the job requirements), poor social skills, a lack of endurance for a full day's work, inability to change tasks, and grooming problems. Initially, many also worked more slowly than would be acceptable in the competitive labor market.[5]

This picture of a group likely to encounter special employment problems is borne out by the experiences of the randomly assigned control group who, as noted earlier, were comparable in background characteristics to the STETS participants. Their activities over the 22-month follow-up period offer the best evidence of how participants would have fared in the absence of STETS.

Indeed, the control group did have substantial difficulties in the labor market: Twenty-two months after random assignment, only 19 percent were employed in a competitive full- or part-time job. Eighteen percent were in sheltered workshops or work activity centers (earning an average of $1.16 per hour), and 7 percent were in subsidized jobs as part of a training program. Approximately 40 percent were not active in any job, or in a school or training program.

TABLE 2

Characteristics of Participants at the Time of Enrollment

Characteristic	Percent or Measure
Average Age (Years)	20
Retardation Range (%)	
Moderate	13
Mild	50
Borderline	38
Average Full-Scale IQ Score	64
Secondary Disabilities (%)[a]	41
Gender (%)	
Male	60
Female	40
Ethnicity (%)	
White	56
Black	30
Hispanic	12
Other	2
Current Living Arrangements (%)	
Parents/Relatives	76
Independent	9
Group Home	8
Other	7
Public Assistance (%)[b,c]	
SSI or SSDI	35
Any Cash Assistance	49
Medicaid or Medicare	32
Any Assistance	64
School (Ever Attended Since Age 14) (%)[c]	
Regular Mainstream (Includes Vocational)	67
Special (Only Handicapped)	37
Curriculum (Ever Followed Since Age 14) (%)[c]	
Regular	11
Special	86
Total Number of Participants	284

SOURCE: Data from enrollment forms and baseline interviews.

NOTES: Percentage distributions may not add to 100.0 because of rounding.

[a]Common ones were speech/language disabilities, seizure disorders, visual impairments, learning disabilities, emotional problems and cerebral palsy.

[b]Includes benefits received by participants but not by others in their households. Percentages are based on 231 participants who were randomly assigned to the experimental group and completed the first interview.

[c]A participant may be in one or more categories.

LESSONS FROM PROGRAM IMPLEMENTATION

While different types of organizations operated the three-stage model — and operational variation existed at the local level — certain tasks were common to all sites. These included recruiting participants, assessing their employment and other needs, developing appropriate jobs, training enrollees in general work habits and job-specific skills, and tracking and counseling former participants once they became regular employees in local firms. Some tasks took place concurrently: For instance, assessment, training and developing appropriate jobs were ongoing needs throughout an individual's program participation.

Two external factors substantially influenced the STETS operating experience. First, the program was conducted during the deep recession years from 1981 through 1983, and the difficult economic environment complicated the development of private sector jobs. Second, soon after the program commenced, continued federal funding became uncertain and remained so throughout the demonstration. Consequently, the sites ceased enrollment of new participants, then resumed it for a few months, and finally suspended it entirely in late 1982. Throughout, the five local programs devoted more time to contingency planning than had been anticipated and, in some cases, did not replace staff who had moved on to other positions. As a result, the STETS operating experience most likely understates what could be achieved in an ongoing program conducted in more favorable circumstances.

The major lessons are summarized below:

- **Recruitment strategies must address the disincentives facing potential participants.**

The ability to recruit large numbers of participants for a transitional employment program cannot be taken for granted. Several factors can complicate the decisions of potential participants, their parents and referral agencies considering programs such as STETS. These include:

- The possible loss of benefits from SSI and SSDI, as well as the accompanying eligibility for Medicaid or Medicare, if participants demonstrate the ability to engage in "substantial gainful activity;"[6]
- Giving up a secure position in another program, such as a sheltered workshop, since participants were not always assured of re-entry if they failed to find a permanent job through STETS; and
- Uncertainty about what competitive employment entails for individuals with limited or no experience in regular, full-time jobs. In some cases, there can be justifiable concern about the possible stress of competitive employment (or the sense of failure if a job is not found).

Nevertheless, after some initial delay, the STETS sites generally developed an adequate system for obtaining referrals. These came primarily from vocational rehabilitation agencies (36 percent), schools (29 percent), agencies serving indi-

viduals with developmental disabilities (13 percent) and sheltered workshops (12 percent).

The sites were, however, unable to recruit as many of one group as they had initially planned; only about 13 percent of all participants were moderately retarded. Several reasons account for this relatively small proportion: a tendency on the part of referral agencies to identify somewhat higher functioning individuals for a new program; the substantial SSI and SSDI receipt among moderately retarded persons and the associated financial disincentive; some sites' limited previous contact with agencies serving this group; and the demographic fact that there are fewer persons in this category than in the mild or borderline groups.

- **Assessment of participants' abilities and needs is more effectively performed through worksite observation than standardized tests.**

While the STETS operators had access to the many standardized tests and work samples available for assessing participants,[7] program staff generally chose instead to carefully observe participants on the job. The sheltered workshops at first relied more than the other sites on formal testing, but found it to be at most an occasionally useful complement to staff observation. St. Paul, for example, had conducted up to three weeks of testing, yet eventually concluded that the results were rarely helpful.

According to the director of the New York program, where the observational technique was used to assess participants working in nonprofit and public agencies:

> Work samples may tell about dexterity, but not other things. A key advantage of our approach is that you can see the kind of ambiance a person works well in, the kind of environment suitable for a person and the person's skills. This approach, compared to the packaged testing schemes, brings the assessor closer to the person being assessed.

The importance of the observational approach was no doubt reinforced over time by the sites' growing awareness that most of the competitive jobs for participants would be service positions, where interpersonal and other skills would be more important than manual dexterity.

There were, however, some limitations to the observational approach. Meaningful evaluation of participants' responses to different tasks and work conditions, and particularly to service positions, can be difficult to obtain in sheltered workshop settings, where the jobs usually are assembly, benchwork and processing positions. In addition, to the extent that the sheltered environments do not reflect the realities of the business sector, a worker's reaction to competitive employment conditions may not be apparent.

Programs conducting observational assessments in unsheltered settings also face the question of job diversity: Participants will either have to be rotated among different employers, or large firms must be recruited that can offer a variety of jobs. However, there was disagreement among the staffs at the STETS sites about the value of moving participants into different jobs. New York felt that, for both assessment and training purposes, exposing partici-

pants to a variety of assignments was critical to their developing the ability to perform the diverse tasks that even entry-level positions increasingly require. Los Angeles, however, believed that transferring participants from one job to another would be unnecessarily disruptive.

One other factor is also important. In unsheltered settings, with participants spread out in a number of different agencies, staff do not have as much time to spend with each participant as is the case when both participants and staff are located in a single worksite.

- **The most difficult task facing program operators is likely to be development of sufficient, appropriate jobs.**

  Effective job development — for both training positions and competitive jobs — is essential for participants to progress in a timely manner through the stages of the program (for instance, so participants, when ready, can move from a Phase 1 to a Phase 2 job, or a worker can be transferred to a new job if the first one is not satisfactory). This is particularly important for the STETS population, for whom continuous reinforcement of proper work habits and skills is usually necessary.

  The sites' job development record was mixed. Although participants were not terminated from the program for a lack of job openings, many were placed in a temporary "hold" status awaiting assignment. Delays in available Phase 2 training jobs meant that others continued in low-stress Phase 1 positions longer than intended. In addition, the sites' endeavors to match participants to suitable jobs, while not unsuccessful, might have been even more effective with a greater number and diversity of openings from which to choose. Despite these difficulties, the local sites managed to keep their standards high, recognizing that placing participants in unstable or poorly managed work environments would defeat rather than advance the program's goals.

  A study of potential employers contacted by the STETS sites confirms the substantial effort that job development requires: Of the 1,027 employers contacted over a five-month period, only 4 percent provided positions to STETS participants. The STETS experience thus suggests that organizations seeking to serve large numbers of participants are likely to be under constant job development pressures. This, more than any other consideration, could constrain the potential scale of transitional employment programs.

- **Future programs should address the factors inhibiting job development in STETS.**

  The STETS sites' difficulties in job development were not unprecedented; many programs seeking private sector employment for disadvantaged or low-skilled workers have encountered similar problems. In addition to the onset of the recession — with unemployment rates climbing to above 11 percent in three of the localities where STETS operated — several factors affected job development:

  - Some job developers were relatively inexperienced. Also, certain sites delayed forming business advisory committees, which might have facilitated the job development process.

- Two of the programs spread the job development function among staff who had other competing responsibilities. The STETS experience suggests that job development should be conducted by specialists who have the time to follow up on leads and know how to work with the business community. A background in social services is not very important.

- In four of the five programs, the sponsoring organizations had a limited track record of placing mentally retarded workers in private sector jobs. An important asset to a job developer is the testimony of others in the business community who have been satisfied with the performance of program employees.

- Initial hopes of locating many jobs in large companies did not materialize. In part this occurred because the hiring process in large businesses tends to be more bureaucratic than in small or medium-sized firms.

- Special difficulties can arise in developing positions for mentally retarded workers. In STETS, some jobs were inaccessible to participants who could not drive or were uncomfortable with public transportation. Parents often imposed conditions on the types and locations of acceptable jobs. Also, certain participants were considered unlikely to master the skills of some available entry-level positions within the program's timeframe.

In devising strategies to overcome these problems, program operators should seek to understand the motivation of employers who do hire mentally retarded workers. Table 3 shows the results of a telephone survey of approximately 100 Phase 2 employers who were asked their reasons for sponsoring a STETS participant. Their responses reveal that altruism (the desire to help the participants or the community) was one prominent factor, although other reasons — such as the wage subsidy and the training assistance provided by the program — were also important. In the case of for-profit firms, the Targeted Jobs Tax Credit was cited by 28 percent of employers. And, although not mentioned in the survey, program operators reported that employers sometimes hired STETS participants in the hopes of reducing turnover in entry-level positions.

The importance of altruism in the hiring decision is not surprising in a program for a young, disabled population since it has also been cited by employers who have hired youths in programs serving disadvantaged but nondisabled youths.[8] In the case of STETS, altruism probably only tipped the balance in favor of hiring individuals believed to be at least minimally capable of performing the job; transitional employment programs should thus continue to stress the ability of participants to satisfy employers' business needs. In addition, the telephone survey was conducted only with Phase 2 employers, who were initially hiring STETS participants as trainees. It is possible that, while altruism motivated the employers to give STETS participants a chance, the final hiring decision rested more narrowly on a determination of the participants' productivity.

TABLE 3

Reasons Cited by Employers for Accepting a Phase 2 Participant

Reason	Percent of Employers	
	Citing Reason[a]	Citing Reason as Only or Most Important One
Desire to help participant/community	78	53
Program assistance with participant wages	18	13
Training assistance provided by program	17	6
Previous employment experience with disabled persons	15	6
Had job openings appropriate for disabled persons	14	4
Previous non-employment experience with disabled persons	11	1
Presentation by STETS staff	11	2
Relative or friend is disabled	7	2
Total Number of Employers	99	94[b]

SOURCE: Riccio, 1984.

NOTES: [a]Some employers cited more than one reason.

[b]Excludes five employers who cited more than one reason but did not specify any one as the most important.

- **Despite some drawbacks, sheltered workshops can appropriately be used as one option for the early phase of training.**

The diversity of operating styles among the five programs revealed the advantages as well as disadvantages of different training approaches, with a major variable being the setting in which the training was conducted. A fundamental question at the beginning of the demonstration was the ability of sheltered workshops to serve as Phase 1 training sites; the actual experience in three of the STETS programs suggests the feasibility of doing so.

The program found these advantages to using workshops during Phase 1:

- The staff could monitor participants more closely in the on-site production facilities than was the case in outside agency settings.
- A perception prevailed among staff that somewhat more disabled individuals could be enrolled. Outside placement, with its attendant concerns about satisfying employers, was not an immediate necessity.

- Work assignments and productivity levels could be easily adjusted since the program had total control over the work environment.

However, there were also drawbacks to the use of workshops that support the STETS decision to impose a limit on the duration of workshop activity prior to participants' placement into unsheltered settings:

- A workshop, and the types of jobs available there, generally cannot simulate competitive employment conditions or provide participants with the opportunity to interact with nondisabled co-workers.
- There can be problems fitting a transitional employment program into an organization that may not otherwise be focused on competitive employment. With STETS participants and the workshop's long-term workers on separate tracks with different goals, the organization's priorities could become strained.
- Some participants, particularly those concerned about being labeled mentally retarded, may resent workshop placement.

Two of the sites — New York and Los Angeles — preferred to use nonprofit and public agencies for Phase 1 training, primarily because staff believed these settings provided a more useful foundation for progressing towards competitive employment. The agencies were carefully selected, however, since the STETS training counselor was generally able to visit worksites only a few times a week. In a very real sense, the agency supervisor became an arm of the program, with considerable day-to-day influence over the participants. For example, in a veterans' hospital in Los Angeles that provided custodial, food service and other Phase 1 positions to STETS participants, staff gained experience over time in dealing with a variety of disabled trainees as the program cycled different participants through the facility.

- **The use of both local agencies and businesses for Phase 2 training proved feasible.**

In Phase 2, four of the five STETS programs relied almost exclusively on local businesses as training sites; New York tended to use nonprofit or public agencies. One advantage of the business setting was the greater likelihood that employers would contribute to the participants' wages and that Phase 2 training jobs would evolve directly into permanent positions. (In contrast, budget constraints generally limited the agencies' ability to pay a substantial portion of the wage or to hire participants on program completion.) However, business firms could sometimes be too quick to impose higher productivity requirements on trainees and were somewhat less receptive to visits by STETS counselors or other interruptions occasioned by a trainee's program participation.

Overall, the use of agency and business settings for Phase 2 training proved feasible, as shown in the high ratings given to both the program and its participants by 100 employers responding to a telephone survey:

- A substantial majority of the Phase 2 employers graded STETS participants "as good as" or "better than" other new employees performing simi-

lar entry-level jobs. To some extent, this high rating may have reflected the assistance the STETS training counselors provided to participants.

- A full 91 percent of the employers said that STETS participants got along either "very well" or "fairly well" with co-workers during Phase 2.
- About 86 percent said they would favor sponsoring a STETS trainee again.

- **Effective training required staff coordination and careful monitoring of participants' progress.**

  Whether training took place in a nonprofit, public or business setting, its effectiveness hinged on several basic principles, one of the most important of which was the coordination of training with assessment and job development. For example, assessment will point to a participant's weaknesses that the training should correct; the training can best address the participant's needs if it is conducted in a suitable job in an appropriate environment. This means that close coordination between staffs with different responsibilities is essential in transitional employment programs.

  Another crucial factor is the careful monitoring of participants' progress in settings where the firms' own supervisors play a primary role in training. STETS counselors had the responsibility to ensure that realistic but firm standards were imposed on participants and to help supervisors understand the balance required in dealing with mentally retarded persons. Undue leniency could impede progress as much as unrealistically stringent requirements. As one STETS counselor noted:

  > In some cases, the supervisors feel sorry for trainees and "baby" them. They say, "We don't want to push them too hard — we'll never have the problems they have." But this doesn't help the trainee.

  Another key task of counselors was to develop the participants' ability to interact with nondisabled supervisors and co-workers. This included improving the participants' ability to follow instructions, to assume a fair share of the responsibilities, and to avoid disruptive or inappropriate behavior. Particularly when a training position was expected to evolve into a permanent job, proper relationships with fellow employees were important. Program staff soon learned that improving worksite performance also required that they understand more about participants' personal lives. Absenteeism, tardiness, poor grooming and attitudinal problems could be rooted in situations at home or elsewhere, away from the worksite.

- **Programs will often need to remain in contact with participants even after placement into competitive jobs.**

  The follow-up phase of STETS, which began when the trainees became competitively employed, included limited yet occasionally critical assistance for six months. The pressures of a new job, personal disruptions (e.g., health problems or a change in residence) or developments at the workplace (e.g., when a

new supervisor replaced the familiar one) could necessitate further program involvement on a temporary basis.

The adjustments required of STETS workers were such that most staff supported enriching the program model to permit follow-up services to last beyond six months. Given the variety of circumstances that could affect the work of a newly employed mentally retarded young adult — and the fact that the program's goal was long-term employment — that recommendation seems advisable. The cost of counseling for emergencies should be well worth the expenditure if job retention increases.

In addition, since young adults can be expected to change jobs — sometimes as a positive step to a better position — it would be beneficial for the programs to offer job search assistance when that becomes necessary. Longer-term help in job-hunting, interviewing and resumé preparation could be useful to a population likely to experience continuing difficulty in these areas.

MEASURES OF IN-PROGRAM PERFORMANCE

While the research examined a broad array of performance measures, three are particularly central to an understanding of STETS:

- The extent to which participants were placed into competitive jobs upon completion of STETS;
- The length of participants' stay in the program prior to job placement or other departures; and
- The cost of operating the STETS program.

The discussion of these performance indicators sets the context for the impact and benefit-cost analyses, described in the following section. These studies build on the information presented here and go on to focus on the critical questions of whether STETS improved participants' post-program employment and reduced their dependence on public programs relative to the outcomes for the control group on these measures.

Placement in Competitive Jobs

A significant proportion of STETS participants were placed in the types of entry-level positions typically available to a youthful population with limited skills (Tables 4 and 5 on the opposite page):

- Approximately 42 percent of the participants made the transition to competitive employment.[9] An additional 9 percent entered other education or training programs, subsidized employment or sheltered workshops.
- Those who entered competitive jobs worked an average of 29 hours a week at a starting wage of $3.63 an hour.

TABLE 4

Placements and Other Types of Departures from STETS

Type of Departure	Percent
Placed in Competitive Job	42
Subsidized Job, Sheltered Workshop or Other Program	9
Not Placed by the Program	49
Total	100
Number of Participants	281[a]

SOURCE: Adapted from Riccio, 1984.

NOTES: Percentage distributions may not add exactly to 100.0 because of rounding.

[a]Excludes three participants without data.

TABLE 5

Characteristics of Participants' First Competitive Jobs

Characteristic	Percent or Measure
Average Hours per Week	29
Average Starting Wage per Hour ($)	3.63
Covered by Health Insurance (%)	57
Sector (%)	
For-Profit	81
Nonprofit	12
Public	8
Occupational Category (%)	
Clerical, Messenger	19
Service	53
Benchwork	12
Miscellaneous[a]	17
Rollover from Phase 2 (%)	66
Number of Participants	113[b]

SOURCE: Adapted from Riccio, 1984.

NOTES: Percentage distributions may not add exactly to 100.0 because of rounding.

[a]Includes machine trades, processing and other jobs.

[b]Excludes four participants without data.

- Over 80 percent of the positions were in the private-for-profit sector, concentrated in service and clerical jobs. Food service, messenger and porter/maintenance positions were typical.

- Slightly over half of the jobs provided medical benefits, either immediately or after a probationary period.

- Approximately two-thirds of the competitive jobs began as Phase 2 training positions.

For the most part, placement rates did not vary substantially when individuals with different characteristics were considered, using age, ethnicity or the presence of secondary disabilities as the variables. While placement rates were higher for those in the borderline group (49 percent) than for those who were moderately retarded (33 percent), this does not support a strategy of targeting programs to the borderline group. (Indeed, the discussion of the program's impacts will show that the *increase* in competitive employment was substantially greater for the moderately retarded group.) There was also a higher placement rate for males (49 percent) than for females (31 percent). Although no clear explanation exists, it is noteworthy that job developers did report somewhat more difficulty finding positions for female participants. Also, fewer females than males reached Phase 2 of the program.

Another factor that could have affected placement rates — the type of organization operating the program — apparently did not. No single administrative structure or approach was clearly preferable. For example, while the placement rates ranged from a low of 29 percent to a high of 56 percent among the five programs, there is no evidence that these rates depended on whether the sites used sheltered or unsheltered settings in Phase 1.

Length of Stay

The duration of program participation is important for several reasons: (1) It suggests the speed with which transitional programs are able to prepare individuals for competitive employment; (2) it is a major determinant of the program's per participant cost; (3) it points to potential problems when funding sources limit participants' length of stay in certain activities (as was the case in the work experience component offered in Los Angeles and New York); and (4) it affects the number of participants a program can serve in a specified period, since this number is influenced by the rate at which program slots turn over due to participant departures (whether for positive or negative reasons).

Findings on length of stay include:

- STETS participants remained in the program for an average of 10.5 months.

- During this time, participants were inactive for an average of 1.9 months, largely because of illness, personal problems or delays in obtaining a job.

- For those entering competitive jobs, the average length of stay prior to placement was 12 months.

- For those leaving the program without a competitive job, well over one-half were terminated before entering Phase 2. Terminations were more often due to disruptive behavior, poor attendance or personal problems than to the participants' inability to perform assigned tasks.[10]
- Approximately 12 percent of the participants remained in the program longer than 15 months.

Operating Costs

The intensive training provided by the STETS sites was furnished at a public cost of about $8,700 per service year (i.e., the cost of training one person for one full year), or about $7,550 per participant (since the average length of stay was less than one year). These figures probably overstate the costs of an ongoing program because the inevitable problems of a new initiative often drive up operating costs during the early period. Nevertheless, it is not clear how much the costs of the program could be decreased without affecting the quality of services.

Several factors influenced the level of costs in the STETS sites:

- **Participants' length of stay.** For example, the significantly below-average cost per service year in one of the STETS sites was entirely offset by the participants' above-average length of stay in that program.
- **Staffing levels.** Since staff salaries constituted a major cost, decisions in this area will be important to future programs. The STETS sites generally used one job developer for every 25 participants and one training counselor for every 10 to 15 workers, as well as staff for intake, administration and participant follow-up.
- **Participant wages.** Maximizing the proportion of participants' wages paid by employers reduced the public cost of the program. The greater likelihood that a substantial portion of the wage will come from businesses, rather than public or nonprofit agencies, is one reason to expedite participants' movement into private firms.

Program operators should recognize the interplay between cost considerations and important issues of program design. For instance, reducing costs by curtailing the duration of participants' training could be self-defeating if it dilutes the intensity and possible impact of the program treatment.

The selection of a wage policy is another example of the close interrelationship. The St. Paul site adopted a piece-rate system for STETS workers during Phase 1 — at a savings of about $750 per participant — primarily to maintain a consistent wage policy in a facility where all other workers were paid on this basis. (However, the Cincinnati workshop, paying the minimum wage to STETS participants throughout the program, did not experience substantial problems.) A wage policy can also affect participant incentives: Some staff believed that paying the minimum wage from the outset spurred participants' productivity by making them feel like regular workers. Other staff reasoned that shifting from a subminimum to a minimum wage at a certain point (e.g., upon entry into Phase 2) could act as an incentive by rewarding workers.

FINDINGS FROM THE IMPACT AND BENEFIT-COST RESEARCH

The impact analysis focused on the question of whether, after program departure, participants' employment and other activities differed from those which would have occurred in the absence of the program. By randomly assigning STETS applicants to either a participant or a control group and tracking the activities of both groups over a 22-month period, it was possible to determine the effects of the program.

It should be noted that the impact analysis did not test STETS against a "no treatment" group, but rather examined the more relevant issue of STETS as an alternative to the mix of vocational and other services that mentally retarded young adults normally receive. At the time of random assignment, members of the control group were all in a school, a sheltered workshop or other program, or in contact with an agency providing services to disabled individuals. This reflects the fact that applicants to STETS were recruited from local service agencies. Most of the control group continued to receive services throughout much of the follow-up period, and about 65 percent were still in regular contact with a service agency at the time of the 22-month interview.

Drawing on the work of Mathematica Policy Research, MDRC's subcontractor for the impact and benefit-cost analyses, this section of the monograph answers four important questions about the effects of STETS during the post-program period:

- Were the former STETS participants employed, and if so, in what kind of jobs?
- Were they now involved in school or training programs?
- To what extent were the individuals relying on some form of public assistance?
- What was the total income (earnings plus public assistance) of the average sample member?

Program effects will be expressed in terms of experimental/control differences, with the "experimentals" including all people randomly assigned to the group that was given the opportunity to participate in STETS (regardless of how long participation lasted).[11] The discussion will focus on data from interviews conducted 22 months after random assignment, when experimentals had been out of the program for an average of about one year. Findings from intermediate interviews conducted at six and 15 months after random assignment will also occasionally be noted.[12]

Employment and Earnings

As indicated in Table 6, the experimental group was substantially more likely than the control group to be in a competitive job (31 percent vs. 19 percent) at

22 months after random assignment, and substantially less likely to be in sheltered workshops or work activity centers (7 percent vs. 18 percent).[13] Since the increase in competitive employment and the decrease in sheltered employment were of roughly the same magnitude, there was virtually no difference between the proportion of experimentals and controls who were in *any* paid job at this point.

The pie chart on the next page graphically illustrates the marked effect of STETS on the *type* of employment in which sample members were working. (See Figure 1.) Among experimentals with jobs at 22 months, 69 percent were employed in competitive positions and only 15 percent were in sheltered employment; of the controls who were working, 44 percent were in competitive jobs and an almost identical 42 percent were in sheltered employment. This shift in job distribution was the primary factor contributing to a $12.38 increase in after-tax weekly earnings for the experimental group at the time of the 22-month interview. This translates into almost $650 on an annual basis.

TABLE 6

Impacts on Selected Outcomes at Month 22

Outcome Measure	Experimental Group Mean	Control Group Mean	Difference
Percent Employed in			
Competitive Job	31	19	12**
Sheltered Workshop	7	18	−11**
Training Job	7	7	0
Any Paid Job	45	44	1
Average Weekly Earnings ($)[a]	41	29	12**
Percent in Training Program	16	29	−13**
Percent in School	8	11	−3
Receipt of Public Assistance			
SSI or SSDI (%)	35	40	−5
Any Cash Assistance (%)	50	52	−2
Average Monthly Income from SSI/SSDI ($)[a]	99	120	−21
Average Monthly Income from Any Cash Assistance ($)[a]	126	136	−10
Average Total Weekly Income ($)[a,b]	71	62	9

SOURCE: Adapted from Kerachsky et al., 1985.

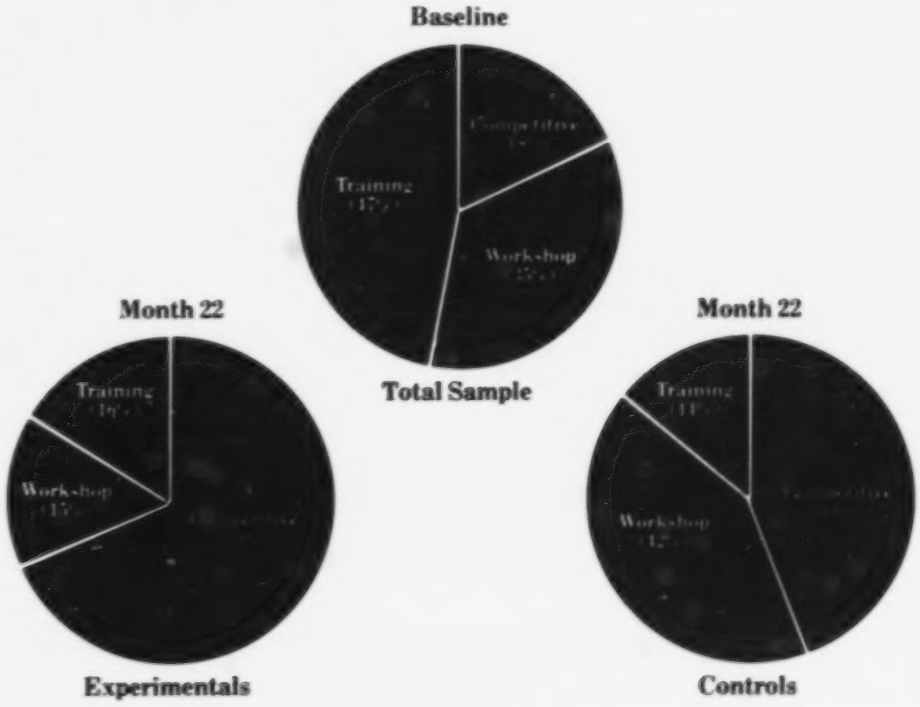
NOTES: [a]Average is for the total sample, including those with no earnings or cash assistance.

[b]Includes total earnings plus cash assistance.

**Statistically significant at the 5 percent level.

FIGURE 1

Trends in Types of Jobs Held by Working Experimentals and Controls



SOURCE: Adapted from Kerachsky et al., 1985.

The effects on certain segments of the research sample (see Table 7) are especially interesting, although they are based on limited sample sizes in most cases:

- STETS more than tripled the proportion of moderately retarded individuals working in competitive jobs 22 months after random assignment. (The program had a somewhat smaller but still significant impact on mildly retarded individuals, but had little or no effect on the borderline group.)
- Large impacts on competitive employment were found for those who were receiving SSI, SSDI or other public assistance at the time they entered the program.
- The program helped males considerably, but had only a small and non-significant effect on females. (There was evidence, however, of a statistically significant impact for females who participated in the program during the "steady-state" period.)

- Substantial impacts were found for individuals with an organic (or identifiable physiological) cause of retardation.
- Especially high absolute levels of competitive employment and large impacts were found for experimentals who had held an unsubsidized full- or part-time job lasting at least three months during the two years prior to enrollment. No impacts were found for those who had had other types of jobs (e.g., subsidized training or sheltered workshop positions) lasting at least three months. Average impacts were found for those with more limited or no employment experience.

It is particularly noteworthy that, while the program's initial placement rates were higher for borderline than for moderately retarded individuals, STETS

TABLE 7

Percent of Selected Subgroups in Competitive Jobs at Month 22

Subgroup	Experimental Group Mean	Control Group Mean	Difference
Level of Retardation			
Moderate	39	11	28**
Mild	28	16	12**
Borderline	34	29	5
Age at Enrollment			
Younger Than 22	30	22	8
22 or Older	32	12	20**
Receipt of Public Assistance at Enrollment			
SSI/SSDI	28	15	13*
Other Public Assistance	42	16	26**
No Public Assistance	23	26	−3
Gender			
Male	35	18	17**
Female	25	20	5
Cause of Retardation			
Organic	34	10	24**
Non-organic	30	21	9**
Work Experience in Two Years Prior to Enrollment			
Competitive Job Lasting ≥ 3 Months	52	21	31**
Other Job Lasting ≥ 3 Months	28	31	−3
No Job Lasting 3 Months	27	11	16**

SOURCE: Adapted from Kerachsky et al., 1985.

NOTES: *Statistically significant at the 10 percent level.
**Statistically significant at the 5 percent level.

made a far greater *difference* for the moderately retarded group. This is largely due to the control group's competitive employment rates, which were higher, at 29 percent, for the borderline category and much lower (11 percent) for moderately retarded persons at the 22-month point. In contrast, within the experimental group, approximately the same proportion of borderline and moderately retarded individuals were in competitive jobs, showing that STETS eliminated the gap that would otherwise have existed between the two groups.

Training and Schooling

The planners of STETS had expected that as more participants moved into competitive employment, their reliance on training programs and schools would decrease. Work in competitive jobs was deemed preferable to the more uncertain benefits of continued participation in school or other programs. This shift might also reduce the substantial public costs of serving mentally retarded young adults.

In fact, STETS did lead to lower participation levels in alternative employment and educational programs. (See Table 6.) While at six months after random assignment, more experimentals than controls were in training programs (reflecting their STETS participation), by the 22-month interview experimentals were significantly less likely to be in such programs than controls (16 percent vs. 29 percent). Experimentals were also less likely than controls to be in school at both six and 22 months, with a large difference evident only at the six-month interview.

Receipt of Public Assistance

At the time of random assignment, approximately two-thirds of the sample members were receiving some form of cash and/or in-kind public assistance. Approximately half of the sample received cash assistance — primarily SSI and SSDI and to a lesser extent, Aid to Families with Dependent Children (AFDC) or state-funded General Assistance. Approximately one-quarter received Food Stamps, and about one-third were using Medicaid or Medicare.

The pattern of experimental/control differences in receipt of public assistance was not entirely consistent, but in general greater differences were found at the six-month rather than the 22-month interview. While 32 percent of experimentals versus 43 percent of controls were receiving some form of cash assistance at six months — for a statistically significant reduction of 11 percentage points — this impact had eroded by the end of the demonstration and was no longer statistically significant. A similar trend was found in income reported from this cash assistance, although experimentals were still receiving $10 per month less than controls at the 22-month point. (See Table 6.)

There was some divergence, however, between the trend in receipt of SSI or SSDI and the trend in receipt of other cash assistance, such as AFDC, General Assistance and Unemployment Insurance. Thus, the experimentals' monthly income from SSI and SSDI continued to decline relative to the controls through the 22-month point. In contrast, both the proportion of experi-

mentals receiving cash assistance other than SSI and SSDI, and their average monthly income from such assistance, exceeded that of controls at the time of the final interview.

Overall, however, the impacts were generally modest and not statistically significant at the time of the 22-month interview. It thus seems appropriate to conclude that the sizable effects of STETS on employment and earnings translated into less substantial reductions in net public assistance received by the experimental group, although the SSI/SSDI reductions are noteworthy.

Total Income

The significant earnings gains of experimentals, offset by only modest reductions in public assistance, increased their total income. The increase was greatest six months after random assignment, when many experimentals were being paid for their work in program jobs. This edge in earnings for experimentals over that of controls began to narrow in the post-program period, but large differences persisted for several subgroups, including those individuals who were moderately retarded, receiving SSI or SSDI, living with their parents, or male. (See Table 8.)

The findings for SSI/SSDI recipients (an additional $25 per week, or $1,300 on an annual basis) and moderately retarded individuals ($43 extra per week, or

TABLE 8

Impact on Weekly Earnings and Income of Selected Subgroups at Month 22

Outcome Measure and Subgroup	Experimental Group Mean	Control Group Mean	Difference
Average Weekly Earnings ($)[a]			
Moderately Retarded	47	21	26
Receiving SSI/SSDI at Enrollment	43	26	17
Males	54	28	26**
Organic Cause of Retardation	46	22	24*
Living with Parents at Enrollment	42	27	15**
Average Weekly Income ($)[a,b]			
Moderately Retarded	90	47	43**
Receiving SSI/SSDI at Enrollment	98	73	25**
Males	80	63	17**
Organic Cause of Retardation	78	68	10
Living with Parents at Enrollment	73	59	14**

SOURCE: Adapted from Kerachsky et al., 1985.

NOTES: [a]Average includes those in the subsample without any earnings or cash assistance.

[b]Income includes earnings plus cash assistance.

*Statistically significant at the 10 percent level.
**Statistically significant at the 5 percent level.

$2,236 annually) are especially important, since these groups may be very concerned about the risks of entering a transitional employment program. It should be noted, however, that the absolute level of total income received by the STETS sample remained low, even for experimentals.

Benefit-Cost Analysis

In addition to helping participants, the program also yielded benefits to the rest of society, primarily because of participants' increased productivity and their reduced use of publicly-funded programs. But costs were incurred to produce these benefits; resources used to operate STETS could have been devoted to other purposes. This raises the question of whether, in economic terms, the benefits STETS generated justified the level of resources needed to produce them.

The benefit-cost analysis provides a comprehensive framework within which to address this issue. However, the analysis only measures benefits and costs that researchers can quantify in dollar terms. Many important potential benefits — such as the value that participants, their families and society presumably place on expanded opportunities for disabled individuals — cannot be measured in these terms. Nevertheless, qualitative estimates about the nature and magnitude of these benefits will influence policy judgments on the merits of the transitional employment approach.

The benefit-cost analysis performed by Mathematica Policy Research recognizes that different segments of society will perceive benefits and costs in very different ways: a cost to some may be a benefit to others. Benefits and costs are therefore examined from three perspectives in this analysis:

- Participants (i.e., those randomly assigned to the experimental group and offered STETS services);
- Nonparticipants (i.e., all the rest of society, sometimes referred to as "the taxpayers"); and
- Society as a whole (i.e., participants *and* nonparticipants together).

Since every person must be either a participant or a nonparticipant but cannot be both, the first two groups are mutually exclusive and together they constitute the third group — society as a whole. By focusing on these three groups, one can begin to understand the distribution of costs and benefits associated with STETS.

For instance, the wages paid to participants by the STETS program were clearly a benefit to this group but a cost to nonparticipants, whose taxes paid for the wages. And, since the expenditure was essentially a shift of resources from one segment of society (nonparticipants) to another (participants), there was no net effect on society as whole.

Participants' reduced reliance on public assistance, such as SSI, can be viewed in a similar way, although the shift takes the opposite direction: The reduced public assistance is a loss (or a cost) to participants and a savings (or a benefit)

to nonparticipants, but has no effect on society as a whole (except through the small savings in the resources needed to administer public assistance programs). Reduced use of sheltered workshops, training and other programs represents an economic benefit to nonparticipants and society as a whole — since resources can now be devoted to other purposes — but is neither a benefit nor a cost to participants.

Since STETS should be viewed as an upfront investment of program operating funds intended to yield a continuing stream of future benefits, a major issue is the timing of the break-even point, where cumulative economic benefits equal costs. In STETS, data cover the period up to 22 months after random assignment. At this point, all STETS program operating costs had been incurred, but benefits — particularly increased earnings and the reduced use of workshops and other programs — could be expected to continue. While there are no data on activities beyond the 22-month point, the fact that the impacts remained steady or rose slightly between the 15- and 22-month interviews[14] provides some cause for optimism about the durability of the findings.

The discussion below summarizes the status of economic benefits and costs from each perspective through the 22-month point, together with other considerations relevant to interpreting these findings:

- **Society as a whole** — Benefits offset most but not all of the investment by the 22-month point, when costs still exceeded benefits by approximately $1,000 per participant. However, if the impacts found at 22 months could be sustained for as little as seven more months, cumulative benefits would exceed costs. Given the pattern of generally stable or growing impacts between the 15- and 22-month interviews, there is a strong likelihood that society as a whole will reap a positive financial return on its investment.

- **Participants** — Not surprisingly, participants gained from the STETS program by over $2,100 per person during the 22-month period. This reflects their compensation as STETS participants and their increased earnings after leaving the program, both of which exceeded the taxes they had to pay and their reduced public assistance. Benefits should continue to grow to the extent that future net income continues to exceed what it would have been in the absence of the program.

- **Nonparticipants** — At the 22-month point, benefits to nonparticipants (i.e., all the rest of society) had offset a significant portion of the cost they had paid to operate the program, but about $3,100 of this group's investment per participant had not yet been recouped. Impacts would have to be sustained at the 22-month level for about two and one-half more years (or longer if benefits accumulate at a slower rate) for the economic benefits to equal the costs.

Taken together, the benefit-cost findings indicate that participants were already well ahead by 22 months after random assignment and that society as a whole would very likely be ahead within a short time. The situation for nonparticipants was less clear, since benefits would have to be projected further into the future to reach the break-even point.

EXPANDING THE ROLE OF TRANSITIONAL EMPLOYMENT PROGRAMS

STETS is a program that can be operated under diverse administrative and organizational conditions to prepare a reasonably large number of mentally retarded young adults for competitive jobs, primarily in the private sector. Through the end of the program follow-up — 22 months after random assignment — participants were substantially more likely than members of the control group to be in competitive jobs and substantially less likely to be in sheltered workshops. They were also earning considerably more than their control group counterparts and were somewhat less dependent on SSI and SSDI.

While the program was not inexpensive, the investment in STETS is expected to yield a positive financial return to society within a fairly short period of time. Important but unmeasurable intangible benefits, such as enhanced self-esteem, should also result from a program that helps mentally retarded young adults enter the mainstream of society.

These are compelling reasons for expanding the role of transitional employment programs within the mix of services for mentally retarded citizens. Yet the STETS experience also points to the need for careful implementation of such programs and suggests some important considerations for policymakers.

- **Transitional employment programs should be viewed as one option in the overall service system for mentally retarded young adults.**

  Despite quite positive findings, the STETS research would not support some of the more extreme claims about transitional employment programs. For instance, it is premature to view such programs as a substitute for the full array of employment and vocational services currently offered to moderately, mildly and borderline retarded adults.

  STETS did not succeed in placing all of its participants in competitive employment, and other types of assistance may be needed by those whom the programs could not help. In addition, the job development problems encountered by the sites point to the challenge inherent in placing mentally retarded persons in competitive jobs and the constraints on rapid expansion of transitional employment programs.

  Nevertheless, initiatives like STETS can be an important way of increasing the job opportunities for many individuals, thereby relieving some of the pressure on programs serving those requiring longer-term assistance. At the same time, these other programs need to be alerted to the possibilities open to mentally retarded adults through transitional employment. The evidence from STETS suggests that the capacity of mentally retarded workers should not be underestimated, and that these individuals should be given a chance to display their true abilities.

  It is also important to remember, however, that some participants in transitional employment programs may need to overcome years of inadequate prepa-

ration. STETS program operators pointed to two key factors they judged important to participants' progress: the motivation levels of participants and whether their home environments were supportive, yet not overly protective.

The two issues are related, and largely depend on the role parents (as well as schools) take in encouraging mentally retarded youths to seek as normal a life as possible. Thus, beginning in the recruitment stage, transitional employment efforts should try to involve parents to some degree in the programs to make sure that they understand the main objectives and share in the goal of competitive employment.

- **Public policy needs to offer proper incentives for participants and program operators.**

Public policy can play a central role by creating an environment more conducive to the operation of transitional programs; particular attention should be paid to the incentives for participants and program operators.

For participants, two concerns stand out: (1) the potential loss or reduction of public assistance (including medical assistance) if their earned income increases; and (2) the loss of secure positions in other programs, such as sheltered workshops, if they take a chance on a transitional employment program but are unable to find or keep a competitive job.

Although this research has shown that, *on average*, STETS participants (including SSI and SSDI recipients) fared considerably better than they otherwise would have, many still did not obtain stable employment. Particularly since potential participants and their families may not want to take risks in this area, the long-run popularity of transitional employment programs will depend not only on the programs' solid track record of placements, but also on the perception that important benefits will not be forfeited if good faith efforts to seek competitive employment fail.

Among other factors, this highlights the importance of continued examination of SSI and SSDI rules, a process begun in the Social Security Disability Amendments of 1980. Anecdotal evidence from the STETS program operators suggests, however, that the fear of financial loss is still shared by participants and their families. This concern is aggravated by the uneven administration of the complex rules governing payment of SSI and SSDI benefits.

To provide incentives for program operators to run transitional employment programs, there is a pressing need for public funding mechanisms that encourage organizations to implement these kinds of efforts. All too often these programs, as did some of the STETS sites, spend too much time and energy juggling multiple categorical grants that have narrow and unrealistic restrictions on how funds are utilized.

Therefore, in addition to increases in overall funding levels, programs should be given greater flexibility in the use of the funds available to them now. They should also be rewarded, at least in part, for increasing the number of participants employed in competitive jobs, rather than being reimbursed only for the number served, as is the more common practice.

The difficulty of devising funding formulae that are equitable, financially sound and properly structured to provide incentives should not be minimized, particularly since it may be necessary to reconcile competing objectives. Nevertheless, finding a way to adequately support transitional employment programs should be one of the highest priorities for policymakers interested in producing a lasting shift in the system.

- **Placement rates can be a misleading indicator of program "success."**

  In establishing proper incentives for program operators, an important distinction must be made between placement rates and program impacts. The former measures the proportion of participants who enter competitive jobs after program completion; the latter speaks to the more important issue of whether the program increased the employment and earnings of participants relative to what would have happened in its absence.

  One valuable lesson from the rigorous evaluation of STETS, with its randomly assigned control group and relatively long-term follow-up, is the importance of carefully defining the measure of "success." Exclusive reliance on placement rates inevitably induces operators to work with those perceived to be easier to place, even though success is illusory if many are placed who could have found jobs without the program's assistance.

  For instance, an examination of the placement rates for the borderline and moderately retarded groups in STETS would lure us into believing that the program was more effective for borderline participants. But the impact analysis — revealing a striking increase in competitive employment for the moderate group — points in precisely the opposite direction. As another example, the large impacts for individuals whose mental retardation could be traced to organic causes also suggest that program operators should avoid the temptation to screen out applicants who may initially seem to have greater employment problems.

- **Program operators should be given flexibility to adapt the program model to their operating style.**

  There is little evidence at this point that any single transitional employment approach should be pursued to the exclusion of all others. Some proponents of these programs insist that the immediate placement of participants into private-for-profit firms is the *sine qua non* of a successful program; others are equally strong advocates of initially placing participants in a low-stress nonprofit or public sector worksite in order to ease the transition to a more demanding private sector job. Still others believe that these programs should be operated by sheltered workshops willing to adopt a transitional approach for appropriate persons.

  In fact, the evidence from the five STETS sites and other programs now operating throughout the country does not indicate that any one setting or method

is clearly superior. This research supports the conclusion that, within the basic parameters of a model intended to prepare individuals for a relatively quick transition to competitive employment, organizations should be given leeway to tailor the program to their own particular operating modes. Philosophical disagreements about the specifics of program design should not detract from a consensus about the overall goal of competitive employment.

Program operators could also benefit from the experiences of organizations serving economically disadvantaged individuals who are not disabled. Many of the issues confronting the STETS sites, which served 18- to 24-year-olds, parallel those that typically arise in employment programs for others in this age group. In many of these programs, the importance of strong management, effective private sector job development, and an understanding of the needs of local businesses surface as major considerations.

Similarly, STETS staff found that some of the participants' problems could be attributed to the lack of direction common to many young people. Much as in programs for disadvantaged but nondisabled youths, it was difficult to predict at enrollment who would succeed; however, a comprehensive approach offering a variety of needed services and lasting for a reasonable duration seems more likely to produce sustained results.

In short, since the goal of placement into competitive jobs is the same in all transitional employment programs, regardless of the population served, the similarities should be kept in mind even as the necessary adaptations are made to meet the needs of mentally retarded workers.

- **Further research and information dissemination will help to target resources and improve program implementation.**

The public sector can play an important role by encouraging further careful research on how best to refine programs for disabled workers. This should be carried out within the stable operating environment of ongoing programs as well as in special demonstrations.

STETS confirmed the potential for using sound research techniques, including random assignment, in studying initiatives for this population. The evaluation found that particularly large impacts can be expected for certain subgroups of mentally retarded individuals, most notably those in the moderate range. Further analysis of the differential impacts of programs on key subgroups, and the program techniques most appropriate to each, will provide additional guidance on the targeting of public resources. Long-term follow-up of sample members, preferably for several years, is also important.

In addition, a mechanism needs to be developed for new programs to benefit from the growing body of operating experience with transitional employment. The organizations participating in the STETS demonstration, as well as others conducting similar programs, should be viewed as an important resource for those planning to offer transitional employment to mentally retarded workers.

Footnotes

1. See Bangser and Price, 1982; Riccio, 1984; Kerachsky et al., 1985. These reports describe the background, implementation, impacts and operating costs of the program.
2. Because of concern over exclusive reliance on IQ scores, MDRC accepted whatever verifiable measures of mental retardation were used by local referral agencies. Nevertheless, IQ scores were still an important factor for many agencies. In this monograph, individuals with IQs from 40 to 51 were considered moderately retarded, those with IQs from 52 to 68 mildly retarded, and those with IQs of 69 to 80 in the "borderline" category.
3. See Kerachsky et al., 1985, Chapter III and Appendix B.
4. SSI is a federally-administered cash assistance program for blind, disabled or elderly persons with limited income and resources. SSDI provides disability benefits primarily to individuals who have contributed to the Social Security trust funds. Most recipients of SSI are statutorily eligible for Medicaid, while individuals receiving SSDI for at least two years are eligible for Medicare.
5. See Gold, 1975; Conley, 1973; Hill and Wehman, 1979; and Kochany and Keller, 1981 for a discussion of the major role these types of problems play in the employment of mentally retarded individuals.
6. A recipient earning more than $300 per month in 1982 would have been deemed capable of "substantial gainful activity" that could disqualify him or her from receiving benefits under both SSI and SSDI. Under SSI guidelines, the amount paid to recipients is reduced by a portion of their earnings. The Social Security Disability Amendments of 1980 increased the safeguards for SSI and SSDI recipients earning income, but the potential work disincentive remains an important issue.
7. The primary tests used were WRAT, WREST and COATES.
8. MDRC's study of the involvement of private businesses in the Youth Incentive Entitlement Pilot Projects revealed that two-thirds of the employers cited the "chance to do something for disadvantaged youths" as a reason for sponsoring a participant in a work experience position. Just under half of the employers cited this altruistic motive as their most important reason for sponsoring a youth. See Ball and Wolfhagen, 1981.
9. Caution should be exercised in comparing this rate with those achieved by programs serving somewhat different populations or using different methods of measurement. In STETS, the placement rate is calculated as a percentage of the individuals assigned to the program, regardless of the duration of their participation.
10. See Gold, 1975 for a general discussion of these issues.
11. Not all STETS participants were in the experimental group, however, since 34 were enrolled in the program during periods when random assignment was not being conducted.
12. For a detailed discussion of the methodology used in the research and findings on other outcome measures, see Kerachsky et al., 1985.
13. The increase in competitive employment is somewhat larger if only that portion of the sample is examined which participated during the five-month "steady-state" period. For that sample — whose outcomes more accurately reflect the likely impact of STETS as an ongoing program — the experimental/control difference in regular job-holding was 15 percent (vs. 12 percent for the full sample). See Kerachsky et al., 1985.
14. Between the 15- and 22-month interviews, the experimental/control difference in regular job-holding increased from 9 to 12 percent. The impacts on weekly earnings and reduced use of sheltered workshops, training and school programs all improved very slightly. (It should be noted, however, that 12 percent of the participants were still in the program at the time of the 15-month interview.)

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